

LONDON 2018

XIV E.A.T. Congress, 4-7 July 

XIV Congress of the European Association of Thermology

4th -7th July 2018

National Physical Laboratory, Teddington, UK

Final Programme

Wednesday 4th July 2018

17:00 – 18:15 Registration (NPL foyer)

18:15 – 18:30 Congress opens - Welcome

K.J. Howell (President, EAT), G. Machin (Head of
Temperature Standards, NPL)

18:30 – 19:00 KEYNOTE 1

**CARDIOVASCULAR AND THERMOREGULATORY RESPONSES
TO HEAT THERAPY**

J. González-Alonso

Director of Centre for Human Performance, Exercise and
Rehabilitation, Brunel University

19:00 – 20:00 Welcome drinks reception

Thursday 5th July 2018

08:45 – 09:30 Registration (NPL foyer)

09:30 – 10:00 KEYNOTE 2

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G. Machin

Head of Temperature Standards, NPL

SESSION 1: Metrology, quality assurance and standardisation

Chairs: G. Machin and R. Simpson

10:00 – 10:15 METROLOGY FOR QUANTITATIVE THERMOGRAPHY AT PTB

I. Müller, S. König, B. Gutschwager, J. Hollandt

10:15 – 10:30 SIZE OF SOURCE EFFECT IN THERMAL IMAGERS

I. Pušnik, J. Drnovšek

10:30 – 10:45 CONTEMPORARY MEDICAL THERMOMETRY

G. Machin, R. Simpson

**10:45 – 11:00 THE LACK OF TERMINOLOGY AGREEMENT IN DESCRIBING
INFRARED CAMERAS IN SCIENTIFIC WRITING**

R. Vardasca

11:00 – 11:30 Coffee

SESSION 2: Fever and body temperature

Chairs: E.F.J. Ring and D.D. Pascoe

**11:30 – 11:45 TECHNICAL AND CLINICAL ACCURACY OF BODY
TEMPERATURE MEASUREMENT IN CLINICAL PRACTICE: AN
UPDATE OF ISO STANDARD 2-56**

M.H. Sund Levander, J. Schminder, R. Gårdhagen, E.M.
Grodzinsky

- 11:45 – 12:00** BILATERAL DIFFERENCES IN ASSESSING BODY CORE TEMPERATURE WITH NON/OR MINIMAL CONTACT METHODS IN YOUNG ADULTS
- R. Vardasca, R.A. Frade, J. Moreira, D. Marques, C. Magalhaes, A. Seixas, J. Mendes, E.F.J. Ring
- 12:00 – 12:15** THE CORRELATION BETWEEN TYMPANIC MEMBRANE TEMPERATURE AND SPECIFIC REGION OF FACE TEMPERATURE WITH STATISTICAL CORRECTION
- D.W. Kim, H.Y. Zhang, H.K.Lee
- 12:15 – 12:30** THE REVISED ISO STANDARD FOR SCREENING THERMOGRAPHS FOR HUMAN FEBRILE TEMPERATURE SCREENING
- E.F.J. Ring, R. Vardasca, D.D. Pascoe

12:30 – 13:00 **Poster viewing 1**

Chairs: M. Sillero-Quintana and J.B. Mercer

13:00 – 14:00 **Lunch**

SESSION 3: Animal thermography

Chairs: M. Soroko and P. Cwynar

- 14:00 – 14:15** INFRARED THERMAL IMAGING IN HORSES – A LITERATURE OVERVIEW
- M. Soroko, K.J. Howell, P. Cwynar
- 14:15 – 14:30** USE OF THERMAL IMAGING FOR DIAGNOSIS OF MMA OR PDS IN SOWS
- I. Pušnik, T. Bogovič, M. Štukelj
- 14:30 – 14:45** DETECTION OF PATHOLOGY OF HORSE EXTREMITIES WITH THE USE OF THERMOGRAPHY
- I. Díez Artigao, S. Díez Domingo
- 14:45 – 15:00** THE IMPACT OF HEAT STRESS ON PHYSIOLOGICAL REACTIONS AND ANIMAL WELFARE
- P. Cwynar, R. Kupczynski, M. Soroko

15:00 – 15:15 **USE OF THERMOGRAPHY ON FRACTURE MANAGEMENT IN SMALL ANIMAL CLINICS. REPORT OF A CLINICAL CASE**

I. Díez Artigao

15:15 – 16:00 **Tea**

Session 4: Exercise and Sports

Chairs: M. Sillero-Quintana and A. Seixas

16:00 – 16:15 **EVOLUTION OF SPORTS THERMOGRAPHY AND NEW CHALLENGES FOR THE FUTURE**

M. Sillero-Quintana, D. Gomes Moreira, I. Fernández-Cuevas

16:15 – 16:30 **DOES THE TISEM-CHECKLIST ADDRESS THE DEFICITS IN REPORTING THERMOGRAPHIC STUDIES?**

K. Ammer

16:30 – 16:45 **SPEED OF MOVEMENT DURING KNEE EXTENSION DOES NOT AFFECT SKIN TEMPERATURE DYNAMICS AFTER EXERCISE**

D. Formenti, D. Perpetuini, D. Cardone, P. Iodice, G. Michielon, A. Caumo, G. Alberti, A. Merla

16:45 – 17:00 **RELATIONSHIP BETWEEN MUSCLE DAMAGE AND SKIN TEMPERATURE AFTER AN ECCENTRIC EXERCISE**

W. da Silva, A.S. Machado, M.A Souza, M.R. Kunzler, P.B Mello-Carpes, J.I. Priego Quesada, F.P. Carpes

17:00 – 17:15 **THERMOGRAPHIC ANALYSIS OF THE USE OF CUSTOM-MADE FOOT ORTHOSES DURING RUNNING**

M. Gil-Calvo, J.I. Priego Quesada, I. Jimenez-Perez, A.G. Lucas-Cuevas, P. Pérez-Soriano

19:00 – 22:00 **Congress Gala Dinner**

The King's Head, Teddington

Friday 6th July 2018

Session 5: Thermography in the peripheral limbs

Chairs: J. Allen and K.J. Howell

- 09:00 – 09:15** THERMOGRAPHIC ASSESSMENT OF THE FOOT: INTER-RATER AND INTRA-RATER REPEATABILITY OF THE PLACEMENT OF REGIONS OF INTEREST BASED ON THE ANGIOSOME CONCEPT
- A. Seixas, J. Azevedo, I. Pimenta, R. Carvalho, K. Ammer, J.P. Vilas-Boas, J. Mendes, R. Vardasca
- 09:15 – 09:30** CAN DIABETIC FOOT ULCERS BE PREVENTED BY THERMOGRAPHY?
- B. Kluwe, A. Macdonald, J. Allen, N. Petrova, M. Edmonds, S. Ainarkar, P. Plassmann, J. Bevans, F. Ring, R. Simpson, L. Rogers, G. Machin, A. Whittam, J. McMillan
- 09:30 – 09:45** BETWEEN VISIT VARIABILITY OF THERMAL IMAGING OF FEET IN PEOPLE ATTENDING PODIATRIC CLINICS WITH DIABETIC NEUROPATHY AT HIGH RISK OF DEVELOPING FOOT ULCERS
- A. Macdonald, N. Petrova, S. Ainarkar, J. Allen, C. Lomas, W. Tang, P. Plassmann, A. Whittam, J. Bevans, F. Ring, B. Kluwe, R. Simpson, L. Rogers, G. Machin, M. Edmonds
- 09:45 – 10:00** RELATIONSHIP BETWEEN SKIN TEMPERATURE AND SOFT TISSUE HARDNESS IN DIABETIC PATIENTS: PRELIMINARY STUDY
- A. Seixas, R. Carvalho, K. Ammer, J.P. Vilas-Boas, J. Mendes, R. Vardasca
- 10:00 – 10:15** VARIABILITY IN PERIPHERAL REWARMING AFTER COLD STRESS AMONG 255 HEALTHY NORWEGIAN ARMY CONSCRIPTS ASSESSED BY DYNAMIC INFRARED THERMOGRAPHY
- A.J. Norheim, E. Borud, T. Wilsgaard , L. de Weerd, J.B. Mercer
- 10:15 – 10:30** CASE STUDIES: INFLUENCE OF VARYING ENVIRONMENTAL TEMPERATURES ON INDIVIDUALS WITH PERSISTENT COLD HANDS

D.D. Pascoe, J.H. McDaniel, R.F. Roberts, P.W. Munford,
C.N. Taylor

10:30 – 10:45 ACUPUNCTURE FOR FROSTBITE SEQUEL, MONITORED BY
DYNAMIC INFRARED THERMOGRAPHY – A CASE REPORT
FROM A SOLDIER IN THE NORWEGIAN ARMED FORCES

A.J. Norheim, T. Alræk

10:45 – 11:00 REFERENCE TEMPERATURE DATA OF NORMAL KOREAN
LOWER EXTREMITY

H.Y. Zhang, T.M. Youk, K.C. Yoo, H.K. Lee, H.J. Song, K.Y.
Yang, H.Y. Lee, Y.E. Cho, S.H. Noh, J.B. Choi, G.H. Nam

11:00 – 11:30 **Coffee**

11:30 – 12:00 **KEYNOTE 3**

HISTORY OF UNCOOLED THERMAL-IMAGING TECHNOLOGY

M. Tompsett

Formerly e2v Inc, AT&T Bell Labs., US Army Research Lab
and TheraManager Inc

Session 6: Surgical applications

Chairs: J.B. Mercer and A. Jung

12:00 – 12:15 CAN INFRARED THERMOGRAPHY BE USED TO ASSESS
KIDNEYS DURING TRANSPLANTATION?

D. Dabare, J. Hodson, K.J. Howell, N. Kalia, N. Inston

12:15 – 12:30 PERFUSION PATTERNS OF PERIUMBILICAL AND LATERAL
ROW PERFORATORS OF THE LOWER ABDOMEN EVALUATED
WITH DYNAMIC INFRARED THERMOGRAPHY (DIRT) AND
INDOCYANINE GREEN (ICG) FLUORESCENCE ANGIOGRAPHY
– A PILOT STUDY

J. B. Mercer, M. A. Chaudhry, T. Sjøberg, S. Weum, L. de
Weerd

12:30 – 12:45 OPERATING ROOM: WHICH TEMPERATURE IS COMFORTABLE FOR BOTH PATIENTS AND SURGEONS?

H. Usuki, H. Suto, E. Asano, M. Oshima, T. Kishino, M. Fujiwara, K. Okano, Y. Suzuki

12:45 – 13:15 **Poster viewing 2**

Chairs: K. Ammer and D.D. Pascoe

13:15 – 14:15 **Lunch**

Session 7: Dynamic thermography applications

Chairs: R. Vardasca and P.P. Hoekstra

14:15 – 14:30 POSSIBILITIES WITH THERMAL MODELING AND SIMULATION OF THE HUMAN BODY

J. Schminder, R. Christensen, M. Sund-Levander, E. Grodzinsky, R. Gårdhagen

14:30 – 14:45 MODELLING EVENT-RELATED THERMAL RESPONSE BY MEANS OF GENERAL LINEAR MODEL

D. Perpetuini, D. Cardone, C. Filippini, A. Merla

14:45 – 15:00 THE EVOLUTION OF ANALYTICS IN BREAST THERMOLOGY: THE QUEST TO IDENTIFY SIGNAL FROM NOISE

P.P. Hoekstra

15:00 – 15:15 DOES INFRARED FUNCTIONAL IMAGING HELP CLINICIANS TO DIAGNOSE LATE-ONSET REACTIONS TO FOOD?

G. de Paula, E. Lima, E. da Silva, J. Costa, B. Farias

15:15 – 15:30 ASSESSMENT OF AUTONOMIC RESPONSE IN ALZHEIMER'S DISEASE PATIENTS DURING THE EXECUTION OF MEMORY TASKS: A FUNCTIONAL THERMAL IMAGING STUDY

D. Perpetuini, D. Cardone, R. Bucco, M. Zito, A. Merla

15:30 – 16:15 **Tea**

Session 8: Rheumatology, rehabilitation and clinical measurement

Chairs: K. Ammer and K.J. Howell

